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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,762	04/23/2001	Valerie Vreeland	2307O087120	5972

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[REDACTED] EXAMINER

PATTERSON, CHARLES L JR

ART UNIT	PAPER NUMBER
1652	16

DATE MAILED: 08/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/840,762	VREELAND ET AL.
	Examiner	Art Unit
	Charles L. Patterson, Jr.	1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 June 2003.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 16,17 and 20-30 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
  - 5) Claim(s) \_\_\_\_\_ is/are allowed.
  - 6) Claim(s) 16,17 and 20-30 is/are rejected.
  - 7) Claim(s) \_\_\_\_\_ is/are objected to.
  - 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 23 April 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a)  The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4)  Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/13/03 has been entered.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claim is drawn to the polypeptide of claim 16 "wherein the polypeptide has at least 80% identity to" SEQ ID NO:2. It is not clear from the instant claim language whether the polypeptide must only have an overall 80% identity with SEQ ID NO:2 (which is what the latter part of the claim suggests) or if it must meet additionally meet the other requirements of claim 16 as to 90% identity with residues 441-676 and a molecular weight of 40-60 kDa. If the latter is true then the claim does not further limit claim 16 since "at least 80%" does not further limit "at least 90%", and is improper under 25 USC § 112 fourth paragraph. For the purposes of this office action the former is assumed, i.e. that it has an overall identity of 80% with SEQ ID NO:2, and that is reflected in the rejections *infra*.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 16 and 20-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant claims are now ultimately drawn to a polypeptide having vanadium haloperoxidase activity that has a molecular weight between about 40-60 kDa and wherein the polypeptide has at least a 90% identity with the region from residues 441-676 of SEQ ID NO:2. The examiner has re-read the instant specification in light of applicants' arguments and amendment and concluded that applicants have not enabled such claims. It is noted that claim 17 is not rejected under this section because it is assumed that it is limited to a polypeptide that has an overall identity of 80% to SEQ ID NO:2 without the other limitations of claim 16 (see 35 USC § 112 second paragraph and 35 USC § 102/103 rejections).

The instant specification apparently teaches that SEQ ID NO:2 is encoded by SEQ ID NO:1 from a 2-cell *Fucus gardneri* (page 21, line 32), however a *Fucus distichus* 2-cell library was apparently used to clone the enzyme (page 17, line 29). This discrepancy is not understood and an explanation is required. The specification does not teach how to make and/or use a polypeptide "having at least 90%...identity to...[residues 441-676 of SEQ ID NO:2, vanadium haloperoxidase activity and] a molecular weight of between about 40 to about 60kDa". Applicants state that there is support for the instant amendment (i.e. the change to a molecular weight limitation of 40-60) on page 4, line 25-26 and Table 1. The recitation on page 4 is a general recitation stating that the polypeptide may comprise from 300-680 amino acids and that exemplary polypeptides have a mass of "about 60 kDa and 40 kDa". It does not

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teach that such polypeptides have vanadium haloperoxidase activity, as required by claim 16. The recitation in Table 1 does not teach a polypeptide from residues 441-676, nor does it teach that any of the embodiments of the table have vanadium haloperoxidase activity. Therefore it is maintained that applicants have taught how to make and/or use the embodiments of claim 16.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 17 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either of Soedjak, et al. (C10) or Vreeland, et al. (C12). This rejection is repeated for the reasons given in the last action. Applicants arguments have been carefully considered but do not overcome the instant rejection.

As noted *supra* in the 35 USC § 112 second paragraph rejection, it is being assumed for the purposes of this action that claim 17 should be limited to a polypeptide having 80% identity with SEQ ID NO:2, without any regard to the identity with residues 441-676 or the molecular weight. Therefore the instant rejection is maintained for this claim. It is maintained that the

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instant reference teach or make obvious the instant claim, absent convincing proof to the contrary. The arguments regarding identity with residues 441-686 and the molecular weight do not apply to this claim.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles L. Patterson, Jr., PhD, whose telephone number is 703-308-1834. The examiner can normally be reached on Monday - Friday, 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy can be reached on 703-308-3804. The fax phone number is 703-308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

  
Charles L. Patterson, Jr.  
Primary Examiner  
Art Unit 1652

Patterson  
August 12, 2003